

WHAT IS CLAIMED IS:

1. A seed of soybean variety 0137335, wherein a sample of said seed has been deposited under ATCC Accession No. - - - - -.
- 5 2. A plant produced by growing the seed of claim 1.
3. A plant part of the plant of claim 2.
4. The plant part of claim 3, further defined as pollen, an ovule or a cell.
- 10 5. A soybean plant having all of the physiological and morphological characteristics of the plant of claim 2.
- 15 6. A tissue culture of regenerable cells of soybean variety 0137335, wherein the tissue culture regenerates soybean plants capable of expressing all the physiological and morphological characteristics of the soybean variety 0137335 and wherein a sample of the seed of said soybean variety 0137335 has been deposited under ATCC Accession No. - - - - -.
- 20 7. The tissue culture of claim 6, wherein the regenerable cells are embryos, meristematic cells, pollen, leaves, roots, root tips or flowers or are protoplasts or callus derived therefrom.
- 25 8. A soybean plant regenerated from the tissue culture of claim 6, wherein the regenerated soybean plant is capable of expressing all the physiological and morphological characteristics of the soybean variety 0137335, and wherein a sample of the seed of said soybean variety 0137335 has been deposited under ATCC Accession No. - - - - -.
9. The soybean plant of claim 2, further comprising a single locus conversion.
- 30 10. The soybean plant of claim 9, wherein the single locus conversion comprises a dominant allele.

11. The soybean plant of claim 9, wherein the single locus conversion comprises a recessive allele.

12. The soybean plant of claim 9, wherein the single locus was stably inserted into a soybean genome by transformation.

13. The soybean plant of claim 9, wherein said single locus comprises a single gene.

14. A first generation (F₁) hybrid soybean seed having a male parent and a female parent, wherein the male and female parents each comprise a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, each parent further being homozygous with respect to each allele pair;

the hybrid soybean seed also comprising a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, one of the alleles being contributed by the male parent and the other being contributed by the female parent, wherein one of the parents is a plant of soybean variety 0137335, a sample of the seed of said soybean variety 0137335 having been deposited under ATCC Accession No. - - - -, and wherein the other parent is a plant of a different variety;

whereby one allele at each locus in the hybrid genome is found at the same locus in soybean variety 0137335, and further whereby the other allele is found at the same locus in the other parent.

15. A first generation F₁ hybrid soybean plant produced by growing the seed of claim 14.

16. Seeds of the first generation F₁ hybrid soybean plant of claim 15.

17. A method of producing soybean seed, comprising crossing a plant of soybean variety 0137335 with itself or a second soybean plant, wherein a sample of the seed of said soybean variety 0137335 has been deposited under ATCC Accession No. - - - - .

18. The method of claim 17, further defined as a method of preparing F₁ hybrid soybean seed, comprising crossing a plant of soybean variety 0137335 to a second, different soybean plant, wherein a sample of the seed of said soybean variety 0137335 has been deposited under ATCC Accession No. - - - - .

19. The method of claim 18, further defined as a method of preparing F₂ hybrid soybean seed and further comprising the steps of:

- (a) growing the F₁ hybrid soybean seed to produce an F₁ hybrid soybean plant; and
- (b) crossing the F₁ hybrid soybean plant with itself or a different soybean plant to produce F₂ hybrid soybean seed.

20. The method of claim 19, further defined as a method of preparing F₃ hybrid soybean seed and further comprising the steps of:

- (c) growing the F₂ hybrid soybean seed to produce an F₂ hybrid soybean plant; and
- (d) crossing the F₂ hybrid soybean plant with itself or a different soybean plant to produce F₃ hybrid soybean seed.

21. The method of claim 18, wherein crossing comprises the steps of:

- (a) planting a seed of soybean variety 0137335 and a second, distinct soybean plant, wherein a sample of the seed of said soybean variety 0137335 has been deposited under ATCC Accession No. - - - - ;
- (b) growing soybean plants from said seed until said plants bear flowers;
- (c) cross pollinating a flower of said soybean variety 0137335 with pollen from said second soybean plant or cross pollinating a flower of said second soybean plant with pollen from said soybean variety 0137335; and
- (d) harvesting seed resulting from said cross pollinating.

22. A method for developing a soybean plant in a soybean breeding program comprising:

- (a) obtaining the soybean plant, or its parts, of claim 2; and
- (b) employing said plant or parts as a source of breeding material using plant breeding techniques.

23. The method of claim 22, wherein the plant breeding techniques are selected from the group consisting of recurrent selection, mass selection, bulk selection, backcrossing, pedigree breeding, genetic marker-assisted selection and genetic transformation.

24. A method of producing a soybean plant derived from the soybean variety 0137335, the method comprising the steps of:

- (a) preparing a progeny plant derived from soybean variety 0137335 by crossing a plant of the soybean variety 0137335 with a second soybean plant, wherein a sample of the seed of the soybean variety 0137335 was deposited under ATCC Accession No. - - - -; and
- (b) crossing the progeny plant with itself or a second plant to produce a progeny plant of a subsequent generation which is derived from a plant of the soybean variety 0137335.

25. The method of claim 24, further comprising:

- (c) crossing the progeny plant of a subsequent generation with itself or a second plant; and
- (d) repeating steps (b) and (c) for at least 2-10 additional generations to produce a soybean plant derived from the soybean variety 0137335.

26. The method of claim 25, further comprising:

- (a) crossing said soybean variety 0137335-derived soybean plant with itself or another soybean plant to yield additional soybean variety 0137335-derived progeny soybean seed;

- (b) growing said progeny soybean seed of step (a) under plant growth conditions, to yield additional soybean variety 0137335-derived soybean plants; and
- (c) repeating the crossing and growing steps of (a) and (b) from 0 to 7 times to generate further soybean variety 0137335-derived soybean plants.

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27. A method for producing a single locus converted plant of soybean variety 0137335, the method comprising the steps of:

- (a) crossing a plant of soybean variety 0137335 with a second soybean plant comprising a single locus to produce a progeny plant comprising the single locus;
- 10 (b) backcrossing the progeny plant with a plant of soybean variety 0137335 to produce a backcrossed progeny plant comprising the single locus; and
- (c) repeating the backcrossing of step (b) over a number of generations sufficient to obtain a single locus converted plant of soybean variety 0137335.

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